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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,412	01/22/2004	Ian Faye	2849	4665

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EXAMINER

PARSONS, THOMAS H

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/762,412

Applicant(s)

FAYE ET AL.

Examiner

Thomas H. Parsons

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 5-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 3, lines 9, suggest inserting “at” after “characterized in that”; and,

Line 14, suggest changing “separately” to --separator--;

Page 4, line 8, suggest changing “expensive” to --expense--; and,

Page 6, line 5, suggest inserting “phase” after “fluid”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Manikowski, Jr. (5,706,675).

Claim 1: Manikowski, Jr. in Figures 1, 2 and 6 disclose a vehicle with a device for converting chemical energy into electrical energy, configured as a fuel cell unit whereby at least one oxygen-containing source mixture (air) (Manikowski, Jr. discloses a fuel cell power plant or other application which the Examiner has construed as a vehicle with a fuel cell [col. 2: 5-11 and 62-64]), comprising:

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a separator (7) for separating off at least one oxygen-enriched fluid from a fluid residue of the source mixture. See col. 5: 35-col. 7: 38.

Claim 2: Manikowski, Jr. in Figure 1 further discloses that the separator (7) has at least one oxygen separator (19) for separating oxygen from the source mixture.

Claim 3: Manikowski, Jr. in Figure 1 further discloses that the oxygen separator is formed as an oxygen condensation unit for condensation of oxygen. Manikowski, Jr. discloses in the abstract that the cooled air stream is expanded in the expander where oxygen/argon condenses in the gas stream. The expanded air stream is delivered to a separation column that separates the liquid oxygen/argon mixture. See also col. 5: 58-60.

Claim 4: Manikowski, Jr. in Figure 1 further discloses that the separator includes at least one heat exchanger (15) for heat exchange with a cooling medium (abstract, and col. 5: 60-col. 6: 3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manikowski, Jr. as applied to claim 1 above, and further in view of Peschka (4,386,309).

Manikowski, Jr. is as applied, argued, and disclosed above, and incorporated herein.

Claim 8: Manikowski, Jr. does not disclose a fluid reservoir is provided for storing liquid hydrogen.

Peschka in the Figure discloses a fluid reservoir (1) for storing liquid hydrogen.

Claim 9: Manikowski, Jr. does not disclose that the fluid reservoir has at least one insulating device *enclosing the fluid residue* for thermally insulating the fluid reservoir.

Peschka in the Figure discloses that the fluid reservoir (1) has at least one insulating device (5, 2) for thermally insulating the fluid reservoir.

Claim 10: Manikowski, Jr. does not disclose that the fluid reservoir has at least one insulating device *enclosing the oxygen-enriched fluid* for thermally insulating the fluid reservoir.

Peschka in the Figure discloses that the fluid reservoir (1) has at least one insulating device (5, 2) thermally insulating the fluid reservoir.

The recitations “enclosing the fluid residue” in claim 9, and “enclosing the oxygen-enriched fluid” have been construed as limitations directed toward the manner in which the insulating device is intended to be used, and limitations which add no additional structure.

Because the fluid reservoir of Peshka is structurally similar to what is instantly claimed, it appears capable of providing the claimed use.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Manikowski, Jr. by incorporating the fluid reservoir of Peschka because both are concerned with supplying fuel to a fuel cell, and Peschka discloses a fluid reservoir that would have provided a means for increasing the storage time of a liquid hydrogen and minimized the undesirable consumption of liquid hydrogen due to evaporation thereby improving the overall efficiency of the fuel cell.

Allowable Subject Matter

6. Claims 5-7 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for Indicating Allowable Subject Matter

7. The following is a statement of reasons for the indication of allowable subject matter:

The claimed invention is concerned with at least one branch connection element for separating the cooling medium into at least two separate partial flows before the at least one heat exchanger in the flow direction. The problem to be solved by the claimed invention is that of controlling condensation in the heat exchanger by controlling flow amount of cooling medium via a bypass into the heat exchanger. Such a structure is neither taught nor suggested in the prior art reference of record. Specifically, Manikowski, Jr. discloses controlling the oxygen/air separator with a system controller by transmitting data bi-directionally between the oxygen/air separator and the fuel cell.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H. Parsons whose telephone number is (571) 272-1290. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER

Thomas H Parsons
Examiner
Art Unit 1745
